

HEAT INDUCTION WORKSTATION

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a heat induction workstation, and more particularly to a packaged heat induction workstation to reduce the space for set up the workstation.

2. Description of Related Art

Induction heat is always used to heat part of a working piece for sealing, heat treatment and so on. A heat induction assembly in accordance with the prior art comprises an induction heating device, an electrical power supplier and a cooling device. The induction heating device is used to heat part of a work piece. For a heat treatment process, a cooling pool is mounted below the induction heating device for quenching the work piece. The electrical power supplier provides electrical power to the induction heating device. The cooling device is connected to the electrical power supplier to reduce the temperature of the electrical power supplier while the heat induction assembly is in operation.

However, the induction heating device, the electrical power supplier and the cooling device of the conventional heat induction assembly are separate parts to each other. It takes too much time for a user to assemble the induction heating device, the electrical power supplier and the cooling device to a conventional heat induction assembly before use. In addition, to test the assembled conventional heat induction assembly is necessary, and this also takes time. Furthermore, a large space is needed to set up the assembled conventional heat induction assembly.

1 To overcome the shortcomings, the present invention tends to provide a
2 heat induction workstation to mitigate or obviate the aforementioned problems.

3 SUMMARY OF THE INVENTION

4 The main objective of the invention is to provide a heat induction
5 workstation that is easy to use and can reduce the space required for setting up
6 the heat induction workstation. The heat induction workstation has a base, a
7 housing, a working station, an electrical power supplier and a cooling device.
8 The housing has an opening and two baffles to divide the inner space of the
9 housing into a central chamber communicated with the opening and two side
10 chambers. The working station is mounted in the central chamber in the housing
11 and has at least one induction heating device. The electrical power supplier and
12 the cooling device are respectively received in the side chambers. The electrical
13 power supplier is electrically connected to the at least one induction heating
14 device to provide electrical power to the at least one induction heating device.
15 The cooling device is connected to the electrical power supplier to reduce the
16 temperature of the electrical power supplier while the electrical power supplier is
17 in operation. With such an arrangement, a packaged heat induction workstation
18 is provided, such that the space for setting up the heat induction workstation is
19 reduced.

20 Other objects, advantages and novel features of the invention will
21 become more apparent from the following detailed description when taken in
22 conjunction with the accompanying drawings.

23 BRIEF DESCRIPTION OF THE DRAWINGS

24 Fig. 1 is a perspective view of a heat induction workstation in

1 accordance with the present invention; and

2 Fig. 2 is a top plan view of the heat induction workstation in Fig. 1.

3 DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

4 With reference to Figs. 1 and 2, a heat induction workstation in
5 accordance with the present invention comprises a base (10), a housing (12), a
6 working station (20), an electrical power supplier (30) and a cooling device (40).
7 The housing (12) is mounted on the base (10) and has a top, a front, two sides
8 and an inner space. An opening (14) is defined in the front of the housing (12).
9 Two baffles (13) are formed in the housing (12) to divide the inner space into a
10 central chamber communicated with the opening (14) and two side chambers.
11 Two rails (16) are respectively mounted on the top and the front of the housing
12 (12). Two front doors (17) are slidably mounted between the rails (16) on the
13 housing (12) to close the opening (14) in the housing (12). When the front doors
14 (17) are slid away from each other along the rails (16), the opening (14) will be
15 opened.

16 The working station (20) is mounted in the central chamber in the
17 housing (12). The working station (20) comprises two induction heating devices
18 (21) mounted in the central chamber. Each induction heating device (21)
19 substantially comprises a work piece-clamping device for clamping a work piece
20 and a coil for generating induction heat to heat whole or part of the work piece.
21 For a heat treatment process, a cooling pool (not shown) is mounted in the
22 central chamber of the housing (12) and corresponds to each induction heating
23 device (21). After the work piece is heated with one of the induction heating
24 devices (21), the work piece can be immersed in the quench bath stored in the

1 cooling pool for quenching.

2 The electrical power supplier (30) is mounted in one of the side
3 chambers and is electrically connected to the induction heating devices (21) to
4 provide electrical power to the induction heating devices (21). The cooling
5 device (40) is mounted in the other side chamber and is connected to the
6 electrical power supplier (30) to reduce the temperature of the electrical power
7 supplier (30) while the electrical power supplier (30) is in operation. The
8 structures of the electrical power supplier (30) and the cooling device (40) are
9 conventional and are not further described.

10 Each respective side of the housing (12) has a side opening defined in
11 the side. A side door (15) is pivotally attached to each respective side of the
12 housing (12) to close the corresponding one of the side openings. Accordingly,
13 the user can check or fix the electrical power supplier (30) and the cooling device
14 (40) through the side doors (15).

15 In addition, a control panel (11) is attached to the housing (12) and is
16 electrically connected to the induction heating devices (21), the electrical power
17 supplier (30) and the cooling device (40) to control the operation of the heat
18 induction workstation.

19 With such an arrangement, a packaged heat induction workstation is
20 provided. For a user, to assemble and to test the heat induction workstation are
21 not necessary. For a manufacturer, a packaged heat induction workstation is
22 easily manufactured and assembled. The packaged heat induction workstation in
23 accordance with the present invention is easy to use and to manufacture, such
24 that the cost and time for using and manufacturing the heat induction

1 workstation is low. In addition, the space for setting up the packaged heat
2 induction workstation can be reduced in relation to prior art.

3 Even though numerous characteristics and advantages of the present
4 invention have been set forth in the foregoing description, together with details
5 of the structure and function of the invention, the disclosure is illustrative only,
6 and changes may be made in detail, especially in matters of shape, size, and
7 arrangement of parts within the principles of the invention to the full extent
8 indicated by the broad general meaning of the terms in which the appended
9 claims are expressed.